mation in regard to the treatment of obscure cases of tumour or swelling in connection with the jaws, groin, and other regions."

"*Third.* In diseases of joints.

"When suppuration has taken place in the interior of a joint, the well-recognized practice is to evacuate the pus by incision as early as possible, with the object of preventing or limiting further mischief. In suppuration of some of the deeper joints, such as the hip, it is not always possible to detect by external examination the presence of pus, and therefore surgical interference in such cases is usually delayed until fluctuation has become more distinct. But delay under these circumstances is not advantageous, and the joint structures and surrounding tissues all suffer during the progress of the suppuration, and consequently the result cannot be so satisfactory in the majority of instances as when the pus is evacuated at an earlier period. I have relieved by an antiseptic exploratory incision five or six cases of commencing suppuration of the hip-joint, and ascertained the exact condition of the articular surfaces, in which no distinct external signs of the presence of pus could be detected. Without the aid of antiseptics in these cases I would have hesitated to open into so important a joint."

"*Fourth.* In injuries of a doubtful nature.

"Cases of dislocation or fractures near joints are occasionally very difficult to diagnose, and if such diagnosis be important in connection with the treatment and satisfactory result of the case, I would not hesitate to make an exploratory incision, with the aid of antiseptics, provided other methods of examination failed to give the proper and full information.

"Sharp fragments of bone, which may be perilling important bloodvessels or other structures, in cases of simple fracture, may be examined, and, if thought right, removed by such an incision; and I have reported a case of this kind in which I successfully extracted a sharp and separated portion of a fractured clavicle, lying over and endangering the subclavian artery.

"*Fifth.* In obscure affections of the internal viscera, which admit of being relieved by surgical means.

"Cases of intestinal obstruction, calculus of the kidney, and tumours or swellings in connection with the abdominal or pelvic viscera, of conditions simulating these various affections, frequently give rise to dangerous symptoms, and if such conditions have failed to be relieved by ordinary carefully-applied methods of treatment, it seems to me perfectly justifiable that surgery should be resorted to, if the condition is one in which there is even a chance of its being relieved or cured by surgical assistance.

"Owing, however, to the difficulty of correct diagnosis in many of these cases, the surgeon hesitates to interfere, and it is in such cases that I would advocate an antiseptic incision, in order to determine if and what operative interference can be of service."

Examples are given in most of these classes of cases in which great advantage was obtained by this means of diagnosis.

Mr. Annandale considers that the application of the principle of exploratory antiseptic incisions is by no means limited to the conditions enumerated.

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41. *Bloodless Surgery.*—Mr. Chiene read before the Medico-Chirurgical Society of Edinburgh a review of Esmarch's method of operating after elastic compression of the limb, and with an elastic cord instead of a tourniquet. Mr. Chiene discussed the advantages and disadvantages of each of these plans. The gist of these remarks was, that the elastic compression was inapplicable and dangerous in many cases, from its driving back into the circulation cancer or putrid fluids; that it was too perfect, as it emptied even his smaller capillaries, and thus prevented the formation of a proper coagulum in the larger vessels. He much preferred a method which has for years been in use in the Edinburgh Infirmary, and which he believed was introduced by Mr. Lister, namely, to elevate and bandage with a common roller the limb to be removed. H also much preferred the ordinary tourniquet to Esmarch's elastic one, because the latter cannot be slacked off gradually, but must be removed entirely, so that much blood may be lost in tying the vessels. Mr. Joseph Bell

agreed in many of Mr. Chiene's theoretical objections to Esmarch's method. He had given it a very full trial, and believed that, while it was easily managed with good assistants in hospital practice, the old-fashioned tourniquet was much more suitable for cases in private, especially in the country, where few skilled assistants were to be had. He liked Esmarch's method much in cases of necrosis or excision of joints such as the wrist-joint, which demand careful dissection, and in which the wound could be plugged, and thus all bleeding stopped before the elastic cord was removed. He also thought it of great advantage in all cases in which needles, splinters, bullets, etc., had to be sought for, as it entirely removed any bleeding, and also rendered the parts partly anæsthetic.—*British Med. Journ.*, Feb. 6, 1875.

42. *The Induction of Local Anæsthesia by Esmarch's Bloodless Method.*—M. **Lannelongue** read to the Surgical Society of Paris a report on a paper submitted by M. **Chauvel**. M. **Le Fort** having related to the Society a case of excision of the elbow which he had performed by Esmarch's bloodless method without the patient having felt any pain, M. Chauvel communicated the results of some researches upon the subject which he has been making at the Val-de-Grâce, where he is an *agrégé*. M. Lannelongue observes that it would indeed be a welcome fact if we were able to add to the already great advantages derivable from Esmarch's bloodless method the suppression of sensibility in the parts concerned. M. Chauvel first details fifteen experiments made upon himself and others, and then relates three cases which he regards as corroborative of the results obtained from these. In all but one of the fifteen experiments diminution of sensibility was observed after a period varying from five to fifteen or twenty minutes, the insensibility occurring much sooner in the upper than in the lower limbs—the amount of constriction exerted by the bandage, and especially by the caoutchouc tube, greatly influencing the period of development and the degree of the local anæsthesia. M. Chauvel admits that the anæsthesia is almost always incomplete, and the reporter expresses himself dissatisfied with his mode of testing sensibility, and with the distinction between tactile insensibility and insensibility to pain. Moreover, the experiments have been confined to the skin, and no deduction can be drawn from them as to the insensibility of the deeper-seated parts.

The clinical portion of the memoir is really that whence deductions can alone be surely drawn; and here M. Chauvel has not much to offer, being only able to produce three cases in which the plan has been tried in the present point of view. Two of these were examples of ingrowing nail, requiring operations which were attended with very little suffering. These M. Lannelongue considers as quite insufficient to establish the fact of insensibility being induced by compression, having regard to their short duration, to the fact that absolute insensibility was not attained, and bearing in mind the very different amount of suffering that is caused by this operation in different patients. The third case is still less conclusive, consisting as it did in the supposed abolition of sensibility to the actual cautery in a soldier who was strongly suspected of malingering. Many facts in operative surgery may also be cited in proof that no such immunity from suffering attends the employment of compression. We do not find by depriving a part of its arterial blood, and placing it in a state of total ischæmia, that we destroy its sensibility. Thus the ligature of the principal limb, and even of the aorta itself, is not attended with this effect; and Longet states that in the five instances in which he tied the aorta in dogs, the sensibility of the lower limbs was never abolished, and the irritation of the sciatic nerve or its branches proved as painful as in the normal condition.

"It is true that Esmarch's procedure not only induces ischæmia, but renders the part anæmic in the extreme. Still, it does not absolutely deprive it of all the venous blood it contains, as is shown by the red colour of most of the tissues. Moreover, elastic compression is quite unable to expel the blood comprised within the different portions of the skeleton which compose a limb. Probably, too, exemption applies also to the nerves, the circulation in which takes place by means of long anatomical arcades, the origins of which in the important nerves are very near the origins of these nerves themselves—that is, at